

Appl. No. 10/612,029
Amdt. Dated Feb. 1, 2005
Reply to Office Action of November 1, 2004

REMARKS

Applicant appreciates the Examiner's indication of allowabilities of claims 3, 4, 6-8, 12, and 16-18.

In order to remove rejections/objections of claims 1, 2, 5, 9-11, 13-15, applicant has amended claims 1, 4, 6, 9 and 15, canceled claims 3 and 12, and add claim 19. Detailed remarks are given below.

Double Patenting

Claims 1, 5, 9, 10, 13 and 14 are rejected under the judicially created doctrine of double patenting over claims 1-3 of U.S. Patent No. 6,793,910(the '910 patent).

Claim 11 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,793,910 in view of U.S. Patent No. 6,757,177(the '177 patent).

As for amended claims 1 and 5, they recites an insulating housing, a number of first and second circuit modules, and first cables connecting to a first circuit board and second cables connecting to a second circuit board, wherein **the first circuit module comprises a cable clamp bonding the first cables and a first grounding plate having a plurality of tabs and wherein the first circuit board defines a plurality of through holes receiving the plurality of tabs**. While the '910 patent particularly claims that "*at least two of the circuit boards terminate with only high-speed cables*" and "*at least one of the circuit boards terminates with both high-speed cables and low-speed cables*". Obviously, the subject matters claimed in amended claims 1, 5 and in the '910 patent are NOT common subject matters. And amended claims 1, 5 are patentably distinct from claims of the '910 patent.

As for amended claim 9, it is patentably distinct from claims of the '910 patent for both of them clearly disclose that **each circuit board of the first circuit modules defines a plurality of cavities and the first grounding plate has a**

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plurality of tabs extending from a periphery thereof and retained in corresponding cavities, which is quite different from the subject matter claimed in the '910 patent. Therefore, there is no double patenting problem between the instant invention and the '910 patent.

As discussed above, subject matters claimed in claims 10, 11, 13 and 14 are also distinct from claims of the '910 patent for all of these claims recite **circuit board having cavities and grounding plate having tabs from a periphery thereof and being retained in corresponding cavities**.

Claim Rejections Under 35 U.S.C 102

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Miskin et al (USP 6,217,364), and also as being anticipated by Paagman (USP 6,102,747).

As shown above, amended claim 1 is rewritten from allowable claim 3 which features **the cable clamp bonding the first cables and a first grounding plate having a plurality of tabs and wherein the first circuit board defines a plurality of through holes receiving the plurality of tabs**. Since "*no prior art of record discloses the combination of the limitations presented*", as stated in the Action, amended claim 1 should be allowable.

Claim Rejections Under 35 U.S.C. 103

Claims 2, 5, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paagman in view of Harris et al.

Claim 2 depends on amended claim 1 which incorporates therein limitations of original claims 1 and 3. In other words, claim 2 now correspond exactly to allowable claim 3 so that overcomes the rejection over Paagman in view of Harris et al.

Appl. No. 10/612,029

Amdt. Dated Feb. 1, 2005

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Claim 5 depends on allowable claim 2 and recites **the second circuit module comprises a cable clamp bonding the second cables and a second planar grounding plate**. Also, claim 5 is patentable in view of cited prior arts.

As for claim 15, it claims an insulating housing, a plurality of juxtaposed first and second printed circuit boards, and a plurality of first and second sets of cables connected to the first and second printed circuit boards, and further describes **each set of the first sets of cables is grouped to form a first number of groups, each set of the second sets of cables is grouped to form a second number of groups, and said first number is different from said second number**. However, none of the cited prior arts discloses such a feature.

Nevertheless, in page 5 of the detailed Action, it states "*Paagman disclose all of the limitations (claimed in claim 15) except for juxtaposed first and second printed circuit boards mixed up and alternately, in a predetermined format, and sets of the cables being grouped*", while "*Harris et al disclose high-speed module and low-speed modules being stacked, which respectively require sets of cables being grouped, according to the electrical characters thereof*", and "*therefore, it would have been obvious to one in the art to arrange the low-speed module and high-speed(?) module juxtaposed staggeredly, as taught by Harris et al*".

Anyway, this conclusion is far-fetched and applicant could not be persuaded. Firstly, there is no such a description or hint in Harris et al patent that stacked modules (in fact, "stacked backplanes") "*respectively require sets of cables being grouped*", even through the Examiner considers that is "inherent"—however, it seems noticeably a hindsight for a ordinary person in the art.

Secondly, in fact, Harris et al. discloses the "offset" arrangement of the "similar/same" connector assembly in the backplane system for no interference, and nowhere in Harries et al. suggests ***different electrically characterized cables being divided into two sets grouped with different numbers and respectively connected to different first and second types printed circuit boards which are***

Appl. No. 10/612,029

Amdt. Dated Feb. 1, 2005

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mixed up and alternately arranged with each other.

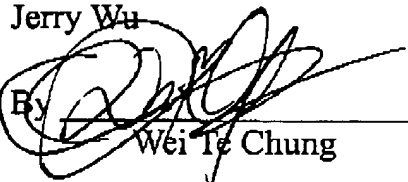
Thirdly, there is no teachings, suggestions or motivations found in cited prior arts to combine the structures so that obtain the instant invention as claimed in claim 15. Clearly many re-modifications for both references are required to make such a hypothetical combination. In fact, the "offset/step" arrangement of Harris et al. essentially **precludes** the claimed so-called alternative arrangement of the first and second printed circuit boards, with more than one alternations, which require the similar dimension and are located at the same level with each other to connect the corresponding cables. Therefore, applicant considers claim 15 is patentable and should be allowable.

Claims 16-19 are regarded as allowable claims for "no prior art has been found to anticipate or render obvious the presently claimed subject matter" (2nd paragraph, page 6 of detailed Action).

In view of the above claim amendments and remarks, the subject application is believed to be in a condition for allowance and an action to such effect is earnestly solicited.

Respectfully submitted,

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